What is claimed is:

1. A free space wavelength duplexed system comprising a first terminal and a second terminal , the first terminal including:

an optical transmitter; and

an optical receiver having a telescope, an optical to electrical converter and an optical amplifier coupled between the telescope and the optical to electrical converter.

2. The system of claim 1, wherein the first terminal further includes an optical splitter coupled between the optical transmitter, the telescope and the optical amplifier.

3. The system of claim 1, wherein the second terminal includes:

a second optical transmitter to transmit an input signal; and

a second optical receiver having a second telescope, a second optical to electrical converter and a second optical amplifier coupled between the second telescope and the second optical to electrical converter.

4. The system of claim 3, wherein the second terminal further includes a second optical splitter coupled between the second optical transmitter, the second telescope and the second optical amplifier.

5. The system of claim 1, wherein:

the optical transmitter includes plural lasers sources, each laser source modulating an input signal onto a wavelength that is distinct from a wavelength of each other laser source; and

the telescope includes a first part to combine the output of the plural laser sources into a multi-wavelength beam and a second part to optically separate the multi-wavelength beam into plural co-parallel and spaced apart beams, the telescope projecting the plural co-parallel and spaced apart beams toward the second terminal.

6. The system of claim 1, wherein the optical transmitter includes:

an electrical converter to convert a serial bitstream into plural parallel blocks of data;

an FEC encoder, bit interleaver and laser source for each parallel block of data, each laser source modulating the interleaved FEC encoded parallel block of data on a wavelength distinct from a wavelength of each other laser source; and

an optical combiner to combine an optical signal from each laser source.

7. The system of claim 6, wherein the optical transmitter further includes a multiplexer to combine plural input signals into the serial bitstream.

8. The free space system of claim 6, wherein the telescope projects an output of the combiner toward the second terminal.

9. A free space wavelength duplexed system comprising a first terminal for use with a second terminal, the first terminal including:

a telescope; and

an optical transmitter in which plural electrical signals are electrically multiplexed together, the multiplexed signal being converted to an optical signal and optically amplified, the amplified optical signal being projected through the telescope into free space toward the second terminal.

10. A first terminal as recited in claim 9 wherein said telescope and optical transmitter comprise a transmitter for a first direction of optical transmission and further comprising a second telescope and associated optical receiver for a second direction of optical transmission.

11. A first terminal as recited in claim 9 wherein said optical transmitter comprises an electrical to optical converter for converting plural electrical signals into plural optical signals at different wavelengths; an optical combiner for combining said

plural optical signals for optical amplification; and an optical amplifier for feeding said telescope.

12. A method comprising steps of:

receiving a received optical signal through a telescope;

diverting the received optical signal in an optical splitter into an optical amplifier; and

transmitting a transmit optical signal through the optical splitter to the telescope.

13. A method comprising steps of:

receiving plural received optical signals through a telescope;

diverting the plural received optical signals in an optical duplexer into an optical amplifier;

separating the plural amplified optical signals by wavelength; and

transmitting plural transmit optical signals at distinct wavelengths through the optical duplexer to the telescope.

14. A method comprising steps of:

converting plural electrical signals into plural optical signals at distinct wavelengths;

combining the plural optical signals;

optically amplifying the combined optical signal; and

projecting the optically amplified signal through a telescope into free space toward another terminal.

15. The method of claim 14, further comprising steps of:

receiving the free space optical signal through another telescope;

capturing the received optical signal in a fiber;

optically amplifying the captured optical signal; and

demultiplexing the amplified optical signal according to wavelength.